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## CLAIMS

What is claimed is:

1. An acoustic wave sensor for detecting a contact state between a exhaust · intake valve and a valve seat of valve train for a vehicle engine  
5 comprising an acoustic wave generating means and an acoustic wave sensing means.
2. The acoustic wave sensor for detecting a contact state between a exhaust · intake valve and a valve seat of valve train for a vehicle engine  
10 according to claim 1, wherein said acoustic wave generating means is consisted of an acoustic wave oscillator, a first amplifier for amplifying the acoustic wave of the acoustic wave oscillator, and a speaker for diverging the acoustic wave of the first amplifier.
- 15 3. The acoustic wave sensor for detecting a contact state between a exhaust · intake valve and a valve seat of valve train for a vehicle engine according to claim 1, wherein said acoustic wave sensing means is consisted of an acoustic wave sensing part for sensing an acoustic wave diverged through the  
20 speaker and converting the acoustic wave into an electric signal, a second amplifier for amplifying a signal of the acoustic wave sensing part and a display part for displaying a signal output from the second amplifier.
- 25 4. The acoustic wave sensor for detecting a contact state between a exhaust · intake valve and a valve seat of valve train for a vehicle engine according to <sup>claim 1</sup> ~~any one of claims 1, 2 and 3~~, wherein a speaker is installed at a

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bending portion of a tubular passage, and said acoustic wave sensing part is installed a site under the contact surface between the valve and the valve seat.

5. The acoustic wave sensor for detecting a contact state between a  
5 exhaust · intake valve and a valve seat of valve train for a vehicle engine  
A according to <sup>claim 1</sup> ~~any one of claims 1 and 3~~, wherein said acoustic wave sensing part  
comprises a condenser microphone for sensing the acoustic wave.

6. The acoustic wave sensor for detecting a contact state between a  
10 exhaust · intake valve and a valve seat of valve train for a vehicle engine  
according to claim 4, wherein a sound shielding member, where said speaker is  
installed, is separately mounted to a port part for preventing the acoustic wave  
from leaking.